

FLASH

Flexible Laser-Based Manufacturing

April 2024: The FLASH project, standing for Flexible Laser-based manufacturing through precision photon distribution, is prepared to revolutionize manufacturing processes globally. Leveraging future-proof, highly customizable, and energy-efficient laser-based production systems, FLASH aims to achieve precise photon distribution, transforming applications in cutting, drilling, welding, cladding, and micro-machining.

At its core, FLASH promises agility, speed, cost-effectiveness, material flexibility, and energy savings, unlike any existing technologies. Its ability to rapidly reconfigure manufacturing processes, reduce cycle time, and minimize capital investment and space requirements positions it as a solution for industries ranging from medical to e-mobility sectors. FLASH is set to achieve its ambitious goals through key technological developments.

Benefits of the FLASH project:

Developing multi-process manufacturing using the FLASH machine platform for various industrial components across different sectors, and formulating business models for the exploitation of FLASH processes and technologies.

Delivering standardization recommendations for policymakers and engaging in collaborative actions with end-user groups, funding programs, and technology clusters/platforms.

Exploring five industrial case studies spanning automotive, medical, and tooling sectors, FLASH aims to showcase the adaptability and functionality of its platform in revolutionizing production methods. From enhancing precision in hip-implant components to reducing waste and improving productivity in PCD microdrill and CBN grinding wheel production, FLASH promises to unlock new potentials in efficiency and sustainability.

Additionally, the project will simplify processes like automotive cross-car beam joining and copper hairpin stripping and welding, offering greater flexibility and energy savings. These case studies exemplify FLASH's commitment to driving innovation and efficiency in manufacturing.

Future Key Results:

The FLASH project aims to deliver five industrially relevant process designs for laser-based manufacturing, an exploitation plan for the commercialization of the modular machine platform, technology transfer plans for the uptake of processes by end-users, FLASH work-based learning and training resources, and a standardization recommendation report and roadmap.

The FLASH project represents a significant leap forward in manufacturing, promising unparalleled advancements in precision, efficiency, and sustainability. Stay tuned for updates on the groundbreaking innovations emerging from FLASH.

Project Partners

Prima Additive, Depuy Ireland, Diamoutils, TOFAS, Cailabs, 3D Drivers, Cosmos Thrace, European Federation for Welding, Joining and Cutting, Aimen, Università di Palermo, ATOP, IMA, ROBUST AO GmbH, Synova, ATS, MTC, University of Huddersfield

